

REMARKS

Summary of the Amendment

Upon entry of the above supplemental amendment, claims 1, 12, and 18 will have been amended. Accordingly, claims 1 – 7, 9 – 16, 18, 19, 21, 22, and 23 will remain pending with claims 1, 12 and 18 being in independent form.

Traversal of Rejection Under 35 U.S.C. § 103(a)

Applicants traverse the rejection of claims 1 – 7, 9 – 16, 18, 19, 21, and 23 under 35 U.S.C. § 102(b) as being anticipated by KAMATA et al. (U.S. Patent Application Publication No. 2002/0063299A1) [hereinafter “KAMATA”] in view of WU (U.S. Patent Application Publication No. 2003/0107104A1) further in view of NISHINOHARA (U.S. Patent No. 6,465,842) and further in view of CHEN et al. (U.S. Patent No. 6,672,606) [hereinafter “CHEN”]. The Examiner asserts that the spacers are part of the gate electrode and the spacers at least partially overlap the source and drain regions. Moreover, the Examiner asserts it would have been obvious to include a diffusion region beneath the gate, as taught by WU, to control the shape of the raised source and drain, as taught by NISHINOHARA, and to include a sloped portion, as taught by CHEN. The Examiner also asserts it would have been obvious to select dimensions within the recited ranges of the pending claims. Applicants traverse the Examiner’s assertions.

While not acquiescing that the asserted combination of documents renders unpatentable the combination of features recited in the pending claims, Applicants, in an effort to expedite prosecution of the instant application, have amended independent claims 1, 12, and 18 to even more clearly define the instant invention over the art of record.

The present invention is directed to reducing extension resistance, optimizing the ratio of extension resistance and gate capacitance, and forming a structure to reduce extension resistance in a single fabrication step. Accordingly, Applicants' independent claim 1 recites, *inter alia*, *forming a gate at least partially overlapping at least one source/drain region*, and forming a first step of material adjacent a side edge of the gate, which is *separated from a gate insulation layer beneath the gate*, and forming a second step of material raised above the first step and remote from the side edge of the gate in a single material formation process; Applicants' independent claim 12 recites, *inter alia*, *forming a first conductive region on a substrate adjacent a side of a gate, which is separated from a gate dielectric arranged beneath the gate*; and Applicants' independent claim 18 recites, *inter alia*, *a gate arranged to at least partially overlap at least one source/drain region*, and a first step raised above a lower surface of the gate, *which is separated from a gate dielectric layer arranged beneath the gate*.

As previously set forth, Applicants submit that KAMATA fails to teach or suggest a gate at least partially overlapping a source and/or drain region, as recited in at least independent claims 1 and 18. While the Examiner asserts that spacers 5 are part of the KAMATA gate, Applicants find no support for this assertion in KAMATA. Moreover, a review of the figures and associated text of KAMATA shows gate 3 disposed on silicon oxide film 2, with the elevated source/drain region 8 in contact with film 2.

Thus, in addition to failing to show at least a partial overlap of the source and/or drain region by the gate, Applicants submit that KAMATA also fails to teach or suggest a region (step, conductive) separated from a gate dielectric layer arranged beneath the gate, as recited in at least independent claims 1, 12, and 18.

Moreover, Applicants note that neither KAMATA nor any of the other applied documents

of record provide the requisite motivation or rationale for modifying KAMATA in any manner that would render unpatentable the instant invention. In particular, Applicants submit that the art of record fails to suggest modifying the raised or step source and/or drain regions of KAMATA to be separated from the gate dielectric underneath the gate, as recited in the independent claims, particularly when each figure of KAMATA appears to teach away from such a modification.

Because the no proper combination of the applied documents of record teaches or suggests the combination of features recited in at least independent claims 1, 12, and 18, Applicants submit that the instant rejection is improper and should be withdrawn.

Still further, Applicants note that none of Figures 1 – 13 of KAMATA even arguably show a material layer having a first layer and a second layer above the first layer and remote from the side edge of the gate. Moreover, while Figures 14 and 15 arguably show a formed first and second step of material, in Figure 14, the step is etched into layer 8, and in Figure 15, layer 8 is turned into a silicide layer 15, such that neither Figure teaches or suggests forming the first and second layers *in a single material formation process*, as recited in at least independent claims 1, 12, and 18 (in terms of independent claim 1).

Because Figure 14 does not even arguably form the second step in the manner recited in at least independent claims 1, 12, and 18, Applicants submit that Figure 14 likewise fails to teach or suggest that the formation of a silicide on the second step formed in a single material formation process with the first step, as recited in independent claims 1, 12, and 18 (in terms of independent claim 1). Likewise, as it does not disclose or suggest a second step formed in a single material formation process with a first step, Figure 15, too, fails to teach or suggest forming a silicide on the second step, as recited in at least independent claims 1, 12, and 18 (in terms of independent claim 1).

With regard to the foregoing, Applicants submit that the art of record fails to provide the necessary motivation or rationale for modifying KAMATA in any manner that would render obvious the instant invention. Moreover, the Examiner has not shown how or why it would have been obvious to modify the above-noted features of KAMATA in view of the above-noted documents.

Moreover, Applicants submit that dependent claims 2 – 7, 9 – 11, 13, 15, 16, 19, 21, and 23 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicants submit that no proper combination of KAMATA, WU, NISHINOHARA, and CHEN discloses or even suggests, in combination, the features recited in claims 2 – 7, and 9 – 11 in combination with the features recited in claim 1, the features recited in claims 13, 15, and 16 in combination with the features recited in claim 12, and the features recited in claims 19, 21, and 23 in combination with the features recited in claim 18.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1 – 7, 9 – 13, 15, 16, 18, 19, 21, and 23 under 35 U.S.C. § 102(b) and indicate that these claims are allowable.

CONCLUSION

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious the Applicants' invention, as recited in each of the pending claims. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

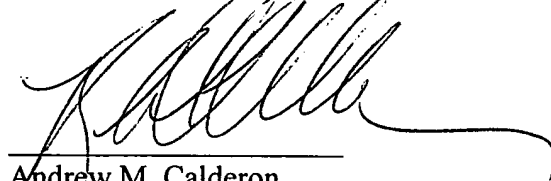
Further, any amendments to the claims which have been made in this response and which

have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Authorization is hereby given to refund excess payments and charge any additional fee necessary to have this paper entered to Deposit Account No. 09-0458.

Respectfully submitted,
O. H. DOKUMACI et al.



Andrew M. Calderon
Reg. No. 38,093

Robert W. Mueller
Reg. No. 35,043

October 4, 2005
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
703-716-1191